Appendix C: Technical Info

Onyx 1200F Specifications

Frequency Response

Mic Input to Control Room Output (Gain @ unity):

@48 kHz
+0, –3 dB, 10 Hz to 23 kHz

@96 kHz
+0, –3 dB, 10 Hz to 45 kHz

@192 kHz
+0, –3 dB, 10 Hz to 75 kHz

Mic Input to Digital Output
(AES, 192 kHz sample rate, Gain @ unity):
+0, –1 dB, 10 Hz to 86 kHz

Mic Input to Digital Output
(AES, 192 kHz sample rate, Gain @ max):
+0, –3 dB, 15 Hz to 70 kHz

Hi-Z Instr Input to Digital Output
(AES, 192 kHz sample rate, Gain @ max):
+0, –1 dB, 10 Hz to 86 kHz

ADAT Input to ADAT Output (48 kHz sample rate):
+0, –0.01 dB, 17 Hz to 23 kHz

Digital AES Input to Headphones Output
(192 kHz sample rate):
+0, –1 dB, 10 Hz to 55 kHz

Distortion (THD + N)

Mic Input to Line Output (@ +4 dBu output):
THD+N: < 0.006%, 10 Hz to 22 kHz BW,
1 kHz input @ +12 dBu, preamp at unity gain

Mic/Line Input to Digital Output (AES, 48 kHz sample rate):
THD+N: < 0.004% @ 1 kHz, +12 dBu input,
gain at unity, 150Ω source

Hi-Z (Instr) Input to Digital Output (AES, 48 kHz sample rate):
THD+N: < 0.01% @ 1 kHz, 100 mV rms input,
gain at –5 dBFS, 150Ω source

Digital Input (AES) to Analog Outs, (48 kHz sample rate):
THD+N: < 0.004%, 10 Hz-22 kHz BW,
–5 dBFS input, +12 dBu output

Dynamic Range

113 dB (Mic/Line In to Digital AES Out, A-weighted)
101 dB (Hi-Z Instr In to Digital AES Out, A-weighted)
103 dB (Digital AES In to Headphones Out, A-weighted)
107 dB (Digital AES In to Control Room/Line Outs,
A-weighted)

Noise

Signal-to-Noise:
>81 dB (ref. +4 dBu, Mic In to Line Out,
150Ω source, 10 Hz-22 kHz BW, Gain @ unity,
48 kHz sample rate)
>82 dB (ref. +4 dBu, Mic In to Control Room Out,
150Ω source, 10 Hz-22 kHz BW, Gain @ unity,
48 kHz sample rate)
>90 dB (ref. +4 dBu, Mic In to Digital AES Out,
150Ω source, 10 Hz-22 kHz BW, Gain @ unity,
48 kHz sample rate)
>88 dB (Digital AES In to Analog Out, 10 Hz-22 kHz BW,
output level set to +4 dBu, 48 kHz sample rate)

Equivalent Input Noise (E.I.N.), 20 Hz to 20 kHz BW,
150Ω source impedance:
–129 dBu @ +60 dB gain (Mic In to Control Room Out)

Residual Noise:
–113 dBFS (Digital AES Out, 10 Hz-22 kHz BW,
48 kHz sample rate)
< –90 dBu (Control Room Out, Gain @ max,
10 Hz-22 kHz BW)
< –86 dBu (Headphones Out, Gain set to 0 dBu out
into 600Ω, 10 Hz-22 kHz BW, 48 kHz sample rate)

Common Mode Rejection Ratio (CMRR)

Mic In: >60 dB @ 1 kHz, Gain @ maximum

Crosstalk

Mic Input to Control Room Output:
< –88 dB @ 1 kHz, +10 dBu signal on adjacent input,
unity gain, 150Ω source impedance

Mic Input to Digital AES Output:
< –76 dB @ 1 kHz, –50 dBu signal on adjacent input,
maximum gain, 150Ω source impedance

Mic Input to Digital AES Output:
< –110 dB @ 1 kHz, +10 dBu signal on adjacent input,
unity gain, 150Ω source impedance

Input Gain Control Range

Mic In: 0 dB to +60 dB
Line In: –20 dB to + 40 dB

Phantom Power

+48 VDC

Rated Output

Line: +4 dBu
Maximum Rated Output:
+21 dBu @ balanced line-level outputs